

Efficacy of Sharpen for Weed Control Before Planting Winter Wheat near Mitchell, Nebraska during the 2009 Growing Season.

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A field study was initiated near Mitchell, Nebraska to examine the efficacy of Sharpen for weed control before planting winter wheat. The experimental design was a randomized complete block with four replications. Plots were 11 feet wide by 25 feet long and were located on a loam soil with an organic matter content of 1.2% and a pH of 7.8. The plot area was planted to winter wheat in the fall of 2008, wheat was harvested in July of 2009 and plots were established in standing wheat stubble at the time of herbicide application. On August 19, 2009, wheat stubble was infested with kochia (2 to 10 inches), Russian thistle (2 to 5 inches), and common purslane (2 to 7 inches). Herbicides were applied with a backpack sprayer calibrated to deliver 20 gallons of water per acre at 32-psi pressure with Spraying Systems 11002 VS nozzles. At the time of spraying, air temperature was 62 F, humidity 64%, wind was blowing from the NW at 4 mph, and spraying started at 8:30 AM. Winter wheat was planted no-till on August 27, 2009, 8 days following herbicide application. The soil surface was dry at planting and winter wheat did not fully emerge until early October following precipitation that occurred in late September.

The addition of Sharpen to Roundup Power Max improved kochia, Russian thistle, and common purslane control over that achieved with Roundup Power Max alone at 0.75 lb/acre (Table 1). Evaluations made on October 18 showed there was minor stunting of winter wheat from preplant applications of Sharpen. Preplant application of Valor before planting winter wheat also resulted in crop injury.

Table 1. Efficacy of Sharpen for Weed Control Before Planting Winter Wheat.

Treatment ¹	Rate	Percent weed control						Winter wheat injury 10/18
		Kochia		Russian thistle		Common purslane		
	(lb/acre)	8/26	9/7	8/26	9/7	8/26	9/7	
Nontreated	--	0	0	0	0	0	0	0
Roundup Power Max + AMS + X77	0.75	91	99	94	96	89	89	0
Sharpen + Roundup Power Max + AMS + MSO	0.022 + 0.38	95	99	96	97	99	99	3
Sharpen + Roundup Power Max + AMS + MSO	0.022 + 0.75	98	99	99	98	99	99	6
Sharpen + Roundup Power Max + AMS + MSO	0.033 + 0.75	99	99	99	99	99	99	3
Sharpen + Clarity + Roundup Power Max + AMS + MSO	0.022 + 0.062 + 0.38	98	99	98	99	99	99	3
2,4-D ester + Roundup Power Max + AMS + X77	0.5 + 0.75	93	99	92	98	97	99	0
Valor + Roundup Power Max + AMS + X77	0.063 + 0.75	96	97	93	96	99	99	13
LSD at (0.05)		5	3	5	4	4	4	8

¹Adjuvants were combined with herbicides at the following rates: ammonium sulfate (AMS) at 17 lbs per 100 gallons of water, nonionic surfactant at 0.25% v/v, and methylated seed oil at 1% v/v.